What does Science look like at Hambledon?

What does it mean to be a scientist at Hambledon Primary School?

- In Science, we encourage children to question the world around them, ensuring that all investigations are fuelled by children's own interests linked to the specific scientific areas. We will encourage children to independently question results, both in terms of what they have found out and, particularly in key stage two, the levels of reliability. We will support children in developing the skills to work as part of an effective research team, including perseverance and problem resolution, whilst encouraging them to reflect on their personal understanding of the world and how they fit within it.
- Children will leave Hambledon knowing about the different scientific strands and recognising the impact that Science has on us on a day-to-day basis.

EYFS

Reception	Communication and Language	• Learn new vocabulary. • Ask questions to find out more and to check what has been said to them. • Articulate their ideas and thoughts in well-formed sentences. • Describe events in some detail. • Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. • Use new vocabulary in different contexts.
Reception Continued	Personal, Social and Emotional Development	• Know and talk about the different factors that support their overall health and wellbeing: - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian
	Understanding the World	• Explore the natural world around them. • Describe what they see, hear and feel while they are outside. • Recognise some environments that are different to the one in which they live. • Understand the effect of changing seasons on the natural world around them.

EYFS

ELG	Communication and Language	Listening, Attention and Understanding	• Make comments about what they have heard and ask questions to clarify their understanding.
	Personal, Social and Emotional Development	Managing Self	• Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
	Understanding the World	The Natural World	• Explore the natural world around them, making observations and drawing pictures of animals and plants. • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

KS1 Cycle A

Autumn	Spring	Summer
Habitats and how the seasons affect them. Longitudinal study – Steve the Stick Insect.	Materials – "The BIG idea about materials."	Materials – "Exploring materials and their properties."

KS1 Cycle B

Autumn	Spring	Summer
How animals survive. Animal life-cycles and timelines.	Pushes, pulls and their effects.	How do plants grow? Making new plants.

LKS2 Cycle A

Autumn	Spring	Summer
Light and sight.	Making electrical circuits work.	How plants reproduce. How plants make their food.

LKS2 Cycle B

Autumn	Spring	Summer
Solids, liquids, gases. Mixtures and separating them.	Animals: skeletons, movement and digestion.	Longitudinal study (feeding relationships). Magnets and their effects.

UKS2 Cycle A

Autumn	Spring	Summer
Space and Gravity.	Forces that oppose motion.	How light behaves and how we see. Controlling electrical circuits.

UKS2 Cycle B

Autumn	Spring	Summer
Circulation Making new substances.	How sound is made, travels and can be changed.	Evolution and natural selection.

Cycle A

Cycle A – Autumn Term

KS1 – Habitats and how the seasons affect them. Autumn 1

National Curriculum Statements:

Seasonal Changes:

- observe changes across the four seasons
- observe and describe weather associated with the seasons and how day length varies.

Habitats:

- explore and compare the differences between things that are living, dead, and things that have never been alive
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- identify and name a variety of plants and animals in their habitats, including microhabitats
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways.
- Observe closely.
- Identify and classify.
- Use observations to suggest answers to questions.
- Gather and record data.

Vocabulary:

Seasons:

Spring, Summer, Autumn, Winter, rain, sunshine, snow, fog, lightning, thunder, storms, weather.

Habitats:

Habitats, micro-habitats, shelter, food, food chain, seashore, ocean, woodland, rainforest, desert, urban, conditions, hot, cold, warm, dry, damp, wet, bright, light, dark, shade(y)

Cycle A – Autumn Term

KS1 – Longitudinal study – Steve the Stick Insect Autumn 2

National Curriculum Statements:

Seasonal Changes:

- observe changes across the four seasons
- observe and describe weather associated with the seasons and how day length varies.

Habitats:

- explore and compare the differences between things that are living, dead, and things that have never been alive
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- identify and name a variety of plants and animals in their habitats, including microhabitats
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways.
- Observe closely.
- Identify and classify.
- Use observations to suggest answers to questions.
- Gather and record data.

Vocabulary:

Seasons:

Spring, Summer, Autumn, Winter, rain, sunshine, snow, fog, lightning, thunder, storms, weather.

Habitats:

Habitats, micro-habitats, shelter, food, food chain, seashore, ocean, woodland, rainforest, desert, urban, conditions, hot, cold, warm, dry, damp, wet, bright, light, dark, shade(y)

Cycle A – Autumn Term

LKS2 – Light and Sight

National Curriculum Statements:

- recognise that they need light in order to see things and that dark is the absence of light.
- notice that light is reflected from surfaces.
- recognise that light from the sun can be dangerous and that there are ways to protect their eyes.
- recognise that shadows are formed when the light from a light source is blocked by an opaque object.
- find patterns in the way that the size of shadows change.

Progression of skills:

Working Scientifically:

- Ask relevant questions.
- Use different types of scientific enquiry to answer questions.
- Set up simple practical enquires.
- Carry out comparative and fair tests.
- Make systematic and careful observations.
- Gather, record and present data in different ways.
- Report on findings and results.
- Make predictions.
- Use scientific evidence to answer questions or support findings.

Vocabulary:

Light, dark, see, reflect, surface, star, sun, moon, sunlight, shadow, blocked, solid, natural, artificial, torch, candle, lamp, dangerous, eye-protection, light sources, shine, source

Cycle A – Autumn Term

UKS2 – Space and Gravity

National Curriculum Statements:

- Describe the movement of the Earth, and other planets, relative to the Sun in the solar system
- Describe the movement of the Moon relative to the Earth
- Describe the Sun, Earth and Moon as approximately spherical bodies
- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Progression of skills:

Working Scientifically:

- Raise different kinds of questions
- Plan different types of scientific enquiry
- Take measurements using a range of equipment with increasing accuracy and precision
- Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs
- Report and present findings – draw conclusions, casual relationships, explanations (oral, written and presentations)
- Identify scientific evidence that has been used to support or refute ideas

Vocabulary:

Earth, Sun, Moon, planets, sun, star, solar system, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, dwarf planet, movement, rotate, orbit, axis, celestial body, spherical, sphere, day, night, light, heat, eclipse, satellite, universe, solar, astronomer, shadow clock, sundial

Cycle A – Spring Term

KS1 – Materials – "The BIG idea about materials."

National Curriculum Statements:

- Distinguish between an object and the material from which it is made
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- Describe the simple physical properties of a variety of everyday materials
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.
- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways
- Perform simple tests
- Identify and classify
- Use observations to suggest answers to questions
- Gather and record data

Vocabulary:

Wood, plastic, glass, paper, metal, rock, brick, fabric, elastic, foil, hard, soft, rough, smooth, shiny, dull, bendy, stiff, property, waterproof, absorbent, opaque, transparent, translucent

Cycle A – Spring Term

LKS2 – Making electrical circuits work.

National Curriculum Statements:

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- recognise some common conductors and insulators, and associate metals with being good conductors

Progression of skills:

Working Scientifically:

- Ask relevant questions
- Use different types of scientific enquiry to answer questions
- Set up simple practical enquires
- Carry our comparative and fair tests
- Make systematic and careful observations
- Use a range of equipment
- Report on findings and results (oral and written)
- Use results to draw simple conclusions
- Make predictions
- Suggest improvements and raise further questions
- Use scientific evidence to answer questions or support findings

Vocabulary:

Electricity, electrical circuit, cell, appliance, wire, bulb, buzzer, switch, open, closed, danger, electrical safety, insulators, wood, rubber, plastic, metal, water, conductors

Cycle A – Spring Term

UKS2 – Forces that oppose motion.

National Curriculum Statements:

- explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
- identify the effects of air resistance, water resistance and friction, that act between moving surfaces
- recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect

Progression of skills:

Working Scientifically:

- Raise different kinds of questions
- Plan different types of scientific enquiry
- Recognise and control variables
- Take measurements using a range of equipment with increasing accuracy and precision
- Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further tests
- Carry out comparative and fair tests
- Report and present findings – draw conclusions, casual relationships, explanations (oral, written and presentations)
- Identify scientific evidence that has been used to support or refute ideas

Vocabulary:

Air resistance, water resistance, friction, gravity, lever, gear, pulley, Newtons

Cycle A – Summer Term

KS1 – Materials – "Exploring materials and their properties."

National Curriculum Statements:

- Distinguish between an object and the material from which it is made
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- Describe the simple physical properties of a variety of everyday materials
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.
- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways
- Perform simple tests
- Identify and classify
- Use observations to suggest answers to questions
- Gather and record data

Vocabulary:

Wood, plastic, glass, paper, metal, rock, brick, fabric, elastic, foil, hard, soft, rough, smooth, shiny, dull, bendy, stiff, property, waterproof, absorbent, opaque, transparent, translucent

Cycle A – Summer Term

LKS2 – How plants reproduce. Summer 1

National Curriculum Statements:

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- investigate the way in which water is transported within plants
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Progression of skills:

Working Scientifically:

- Ask relevant questions
- Use different types of scientific enquiry to answer questions
- Set up simple practical enquires
- Carry our comparative and fair tests
- Make systematic and careful observations
- Use a range of equipment
- Report on findings and results (oral and written)
- Use results to draw simple conclusions
- Make predictions
- Suggest improvements and raise further questions
- Use scientific evidence to answer questions or support findings

Vocabulary:

Transportation, nutrients, soil, reproduction, seed formation, seed dispersal, pollination

Cycle A – Summer Term

LKS2 – How plants make their food. Summer 2

National Curriculum Statements:

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- investigate the way in which water is transported within plants
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
- describe the life process of reproduction in some plants

Progression of skills:

Working Scientifically:

- Ask relevant questions
- Use different types of scientific enquiry to answer questions
- Set up simple practical enquires
- Carry our comparative and fair tests
- Make systematic and careful observations
- Use a range of equipment
- Report on findings and results (oral and written)
- Use results to draw simple conclusions
- Make predictions
- Suggest improvements and raise further questions
- Use scientific evidence to answer questions or support findings

Vocabulary:

Transportation, nutrients, soil, reproduction, seed formation, seed dispersal, pollination

Cycle A – Summer Term

UKS2 – How light behaves and how we see. Summer 1

National Curriculum Statements:

- recognise that light appears to travel in straight lines
- use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
- explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Progression of skills:

Working Scientifically:

- Raise different kinds of questions
- Plan different types of scientific enquiry
- Recognise and control variables
- Take measurements using a range of equipment with increasing accuracy and precision
- Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further tests
- Carry out comparative and fair tests
- Report and present findings – draw conclusions, casual relationships, explanations (oral, written and presentations)
- Identify scientific evidence that has been used to support or refute ideas

Vocabulary:

Reflection, refraction, spectrum, rainbow

Cycle A – Summer Term

UKS2 – Controlling electrical circuits. Summer 2

National Curriculum Statements:

- associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
- use recognised symbols when representing a simple circuit in a diagram.

Progression of skills:

Working Scientifically:

- Raise different kinds of questions
- Plan different types of scientific enquiry
- Recognise and control variables
- Take measurements using a range of equipment with increasing accuracy and precision
- Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further tests
- Carry out comparative and fair tests
- Report and present findings – draw conclusions, casual relationships, explanations (oral, written and presentations)
- Identify scientific evidence that has been used to support or refute ideas

Vocabulary:

Circuits, series, parallel, voltage, volts, amp

Cycle B

Cycle B – Autumn Term

KS1 – How animals survive. Autumn 1

National Curriculum Statements:

- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- identify and name a variety of common animals that are carnivores, herbivores and omnivores
- describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- notice that animals, including humans, have offspring which grow into adults
- find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways
- Observe closely
- Use simple equipment
- Perform simple tests
- Identify and classify
- Use observations to suggest answers to questions
- Gather and record data

Vocabulary:

Habitats, micro-habitats, shelter, food, food chain, seashore, ocean, woodland, rainforest, desert, conditions, hot, cold, warm, dry, damp, wet, bright, light, dark, shade(y)

Cycle B – Autumn Term

KS1 – Animal life-cycles and timelines. Autumn 2

National Curriculum Statements:

- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- identify and name a variety of common animals that are carnivores, herbivores and omnivores
- describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- notice that animals, including humans, have offspring which grow into adults
- find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways
- Observe closely
- Use simple equipment
- Perform simple tests
- Identify and classify
- Use observations to suggest answers to questions
- Gather and record data

Vocabulary:

Habitats, micro-habitats, shelter, food, food chain, seashore, ocean, woodland, rainforest, desert, conditions, hot, cold, warm, dry, damp, wet, bright, light, dark, shade(y)

Cycle B – Autumn Term

LKS2 – Solids, liquids and gases. Autumn 1

National Curriculum Statements:

- compare and group materials together, according to whether they are solids, liquids or gases
- observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Progression of skills:

Working Scientifically:

- Ask relevant questions
- Use different types of scientific enquiry to answer questions
- Set up simple practical enquires
- Carry our comparative and fair tests
- Make systematic and careful observations
- Take accurate measurements (using standard units where appropriate)
- Use a range of equipment
- Gather, record, classify and present data in different ways
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, tables
- Report on findings and results (oral and written)
- Use results to draw simple conclusions
- Make predictions
- Suggest improvements and raise further questions
- Identify differences, similarities or changes related to scientific ideas
- Use scientific evidence to answer questions or support findings

Vocabulary:

Solid, liquid, gas, evaporation, condensation, temperature, freezing, heating, particle

Cycle B – Autumn Term

LKS2 – Mixtures and separating them. Autumn 2

National Curriculum Statements:

- compare and group materials together, according to whether they are solids, liquids or gases
- observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Progression of skills:

Working Scientifically:

- Ask relevant questions
- Use different types of scientific enquiry to answer questions
- Set up simple practical enquires
- Carry our comparative and fair tests
- Make systematic and careful observations
- Take accurate measurements (using standard units where appropriate)
- Use a range of equipment
- Gather, record, classify and present data in different ways
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, tables
- Report on findings and results (oral and written)
- Use results to draw simple conclusions
- Make predictions
- Suggest improvements and raise further questions
- Identify differences, similarities or changes related to scientific ideas
- Use scientific evidence to answer questions or support findings

Vocabulary:

Solid, liquid, gas, evaporation, condensation, temperature, freezing, heating, particle

Cycle B – Autumn Term

UKS2 – Circulation
Autumn 1

National Curriculum Statements:

- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- describe the ways in which nutrients and water are transported within animals, including humans.

Progression of skills:

Working Scientifically:

- Raise different kinds of questions
- Plan different types of scientific enquiry
- Recognise and control variables
- Take measurements using a range of equipment with increasing accuracy and precision
- Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further tests
- Carry out comparative and fair tests
- Report and present findings – draw conclusions, casual relationships, explanations (oral, written and presentations)
- Identify scientific evidence that has been used to support or refute ideas

Vocabulary:

Function, circulatory system, heart, valve, blood (white blood cells, red blood cells), plasma, blood vessel, vein, artery, transport, oxygenated, deoxygenated, lifestyle, drug (inc. alcohol)

Cycle B – Autumn Term

UKS2 – Making new substances. Autumn 2

National Curriculum Statements:

- compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
- give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- demonstrate that dissolving, mixing and changes of state are reversible changes
- explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Progression of skills:

Working Scientifically:

- Raise different kinds of questions
- Plan different types of scientific enquiry
- Recognise and control variables
- Take measurements using a range of equipment with increasing accuracy and precision
- Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further tests
- Carry out comparative and fair tests
- Report and present findings – draw conclusions, casual relationships, explanations (oral, written and presentations)
- Identify scientific evidence that has been used to support or refute ideas

Vocabulary:

Hardness, transparency, thermal conductivity, electrical conductivity, solubility, solution, dissolve, filter, sieve, reversible, irreversible

Cycle B – Spring Term

KS1 – Pushes, pulls and their effects.

- Pupils should begin to understand pushes and pulls and the role that these have in everyday life. Pupils should be given opportunities to investigate these in a range of ways to build engagement, interest, and crucially, a base of their understanding.
- This unit should support them as they begin formal learning about forces and magnets in Year 3/4.

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways
- Observe closely
- Use simple equipment
- Perform simple tests
- Identify and classify
- Use observations to suggest answers to questions
- Gather and record data

Vocabulary:

Pushes, pulls, movement, motion, forces,

Cycle B – Spring Term

LKS2 – Animals: Skeletons and digestion.

National Curriculum Statements:

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement
- describe the simple functions of the basic parts of the digestive system in humans
- identify the different types of teeth in humans and their simple functions
- construct and interpret a variety of food chains, identifying producers, predators and prey

Progression of skills:

Working Scientifically:

- Ask relevant questions
- Use different types of scientific enquiry to answer questions
- Set up simple practical enquires
- Carry our comparative and fair tests
- Make systematic and careful observations
- Take accurate measurements (using standard units where appropriate)
- Use a range of equipment
- Gather, record, classify and present data in different ways
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, tables
- Report on findings and results (oral and written)
- Use results to draw simple conclusions
- Make predictions
- Suggest improvements and raise further questions
- Identify differences, similarities or changes related to scientific ideas
- Use scientific evidence to answer questions or support findings

Vocabulary:

Skeleton, skull, bones, muscles, mouth, tongue, teeth, oesophagus, small intestine, large intestine, movement, support, protection, nutrition, nutrients, absorb, molar, canine, incisor, producer, consumer, apex predator, vertebrates, invertebrates, environment, habitats, classification key

Cycle B – Spring Term

UKS2 – How sound travels and can be changed.

National Curriculum Statements:

- identify how sounds are made, associating some of them with something vibrating
- recognise that vibrations from sounds travel through a medium to the ear
- find patterns between the pitch of a sound and features of the object that produced it
- find patterns between the volume of a sound and the strength of the vibrations that produced it
- recognise that sounds get fainter as the distance from the sound source increases

Progression of skills:

Working Scientifically:

- Raise different kinds of questions
- Plan different types of scientific enquiry
- Recognise and control variables
- Take measurements using a range of equipment with increasing accuracy and precision
- Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further tests
- Carry out comparative and fair tests
- Report and present findings – draw conclusions, casual relationships, explanations (oral, written and presentations)
- Identify scientific evidence that has been used to support or refute ideas

Vocabulary:

Vibration, pitch, sound, wave, volume, tone, insulation

Cycle B – Summer Term

KS1 – How do plants grow? Summer 1

National Curriculum Statements:

- identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
- identify and describe the basic structure of a variety of common flowering plants, including trees.
- observe and describe how seeds and bulbs grow into mature plants
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways
- Observe closely
- Use simple equipment
- Perform simple tests
- Identify and classify
- Use observations to suggest answers to questions
- Gather and record data

Vocabulary:

Deciduous, evergreen, blossom, bulb, roots, trunk, branches, growth, germinate, light, temperature, lifecycle, (reproduce also linked to plants and animals)

Cycle B – Summer Term

KS1 – Making new plants
Summer 2

National Curriculum Statements:

- identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
- identify and describe the basic structure of a variety of common flowering plants, including trees.
- observe and describe how seeds and bulbs grow into mature plants
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

Progression of skills:

Working Scientifically:

- Ask simple questions and recognise they can be answered in different ways
- Observe closely
- Use simple equipment
- Perform simple tests
- Identify and classify
- Use observations to suggest answers to questions
- Gather and record data

Vocabulary:

Deciduous, evergreen, blossom, bulb, roots, trunk, branches, growth, germinate, light, temperature, lifecycle, (reproduce also linked to plants and animals)

Cycle B – Summer Term

LKS2 – Longitudinal study (feeding relationships) Summer 1

National Curriculum Statements:

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement
- describe the simple functions of the basic parts of the digestive system in humans
- identify the different types of teeth in humans and their simple functions
- construct and interpret a variety of food chains, identifying producers, predators and prey

Progression of skills:

Working Scientifically:

- Ask relevant questions
- Use different types of scientific enquiry to answer questions
- Set up simple practical enquires
- Carry our comparative and fair tests
- Make systematic and careful observations
- Take accurate measurements (using standard units where appropriate)
- Use a range of equipment
- Gather, record, classify and present data in different ways
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, tables
- Report on findings and results (oral and written)
- Use results to draw simple conclusions
- Make predictions
- Suggest improvements and raise further questions
- Identify differences, similarities or changes related to scientific ideas
- Use scientific evidence to answer questions or support findings

Vocabulary:

Transportation, nutrients, soil, reproduction, seed formation, seed dispersal, pollination

Cycle B – Summer Term

LKS2 – Magnets and their effects. Summer 2

National Curriculum Statements:

- compare how things move on different surfaces
- notice that some forces need contact between two objects, but magnetic forces can act at a distance
- observe how magnets attract or repel each other and attract some materials and not others
- compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- describe magnets as having two poles
- predict whether two magnets will attract or repel each other, depending on which poles are facing.

Progression of skills:

Working Scientifically:

- Ask relevant questions
- Use different types of scientific enquiry to answer questions
- Set up simple practical enquires
- Carry our comparative and fair tests
- Make systematic and careful observations
- Take accurate measurements (using standard units where appropriate)
- Use a range of equipment
- Gather, record, classify and present data in different ways
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, tables
- Report on findings and results (oral and written)
- Use results to draw simple conclusions
- Make predictions
- Suggest improvements and raise further questions
- Identify differences, similarities or changes related to scientific ideas
- Use scientific evidence to answer questions or support findings

Vocabulary:

Force, contact, surface, magnetic, attract, repel, poles

Cycle B – Summer Term

UKS2 – Evolution and natural selection.

National Curriculum Statements:

- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Progression of skills:

Working Scientifically:

- Raise different kinds of questions
- Plan different types of scientific enquiry
- Recognise and control variables
- Take measurements using a range of equipment with increasing accuracy and precision
- Record data using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further tests
- Carry out comparative and fair tests
- Report and present findings – draw conclusions, casual relationships, explanations (oral, written and presentations)
- Identify scientific evidence that has been used to support or refute ideas

Vocabulary:

Adaption, evolution, characteristic, reproduction, survival, genetics